



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

NOV 09 2009

Kristin Kerwin
U.S. Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401

RE: Draft Environmental Impact Statement for Abengoa Biorefinery Project, To Support the Design, Construction, and Startup of a Commercial-Scale Integrated Biorefinery, Federal Funding, and Located near the City of Hugoton, Stevens County, Kansas

Dear Ms. Kerwin:

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the Environmental Protection Agency (EPA) has reviewed the Department of Energy's (DOE) Abengoa Biorefinery Project Draft Environmental Impact Statement (DEIS) (CEQ # 20090329).

The DOE is proposing funding the Abengoa Biorefinery Project (the Project) to support design, construction, and startup of a biomass-to-ethanol and biomass-to-energy production facility located adjacent to the City of Hugoton, Stevens County, Kansas. U.S. Department of Agriculture, Rural Development is a cooperating agency in the preparation of this EIS.

The 810-acre project site is currently in row-cropped agricultural production. Approximately 385 acres would be occupied by the facility itself and the remaining 425 acres retained for feedstock production and to serve as a buffer between the facility and the City. According to the DEIS, the integrated biorefinery would use a combination of lignocellulosic feedstocks to produce ethanol and to generate electricity. Feedstock would be grown on-site, but primarily purchased from other sources within a 50-mile radius of the site. Source water for the Project would be provided by existing irrigation wells near the site. Abengoa Bioenergy, the applicant, originally proposed an integrated grain-to-ethanol facility in addition to its biomass-to-ethanol production facility. That component of Abengoa Bioenergy's proposal was withdrawn although the applicant

continues to complete plans for such a facility and the DEIS addresses this issue under cumulative impacts.

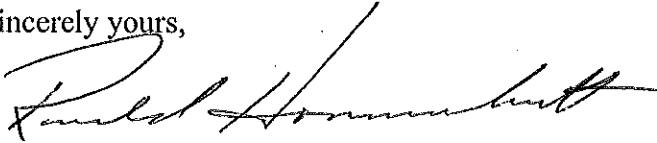
The DEIS preferred alternative or proposed action would produce up to 18 million gallons of denatured ethanol and 92 megawatts of electricity with 70 megawatts being sold commercially. Process water will be secured through optioned water rights from local wells. According to the DEIS, both the proposed action and the action alternative will result in a net gain to groundwater in comparison to recent irrigation withdrawals from these optioned rights. Wastewater would be treated and reused on-site for irrigation of site crops with no discharges to area surface waters or the city's wastewater treatment system. Stillage cake, remaining after distillation, would be processed for lignin and/or utilized for boiler fuel along with feedstock biomass. Boiler ash would be sold as a soil supplement or landfilled. The action alternative would require less groundwater and produce less ethanol (12 million gallons) and only enough electricity to partially support facility operations.

Based on the information provided in the DEIS, EPA has assigned a rating of 'EC-2.' The 'EC' indicates that we have environmental concerns with the preferred alternative. The '2' indicates that additional information is needed to support the impact analysis documented in the DEIS. I have enclosed a description of the NEPA rating criteria. This rating will be published in the Federal Register. Our concerns are based on the lack of complete information addressing the impacts of biomass harvest on soil sustainability, the disposition of solid waste during construction and operation, the potential movement of land-applied wastes through groundwater and the relationship between this project and a future grain-based ethanol production facility. In addition, it is our understanding that, as a result of changes to the project design, air quality modeling will have to be redone. Discussion of each issue under specific resource and subject areas is enclosed.

As a general comment on readability and document continuity, the multiple references to electronic mail from the applicant that serve as the basis for technical assumptions, impact analyses, and determinations of significance, absent essential details in the DEIS itself, introduces a degree of uneasiness. Also, in any instance when the DEIS makes a judgment such as 'acceptable' or 'insignificant', the basis for making that determination should be more clearly cited and explained in the text of the DEIS. Finally, the text of the DEIS is heavy with multiple references to water and process volumes expressed in multiple units of measure. It is extremely difficult to gauge the significance of these values in the assessment of impacts. The DEIS should present that information which specifically supports the assessment and move the rest of the inventory of component values and numbers to tables or appendices. The sheer quantity of values hinders the reader's ability to assess significance and make comparisons.

Thank you for the opportunity to review and provide comments on the DEIS. We look forward to working with you and the Department of Agriculture's Rural Development to resolve these issues. If you have any questions or would like to discuss our concerns, please contact Joe Cothorn, NEPA Team Leader, at (913) 551-7148, cothorn.joe@epa.gov, or Larry Shepard at (913) 551-7441, shepard.larry@epa.gov.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Ronald Hammerschmidt", with a long, sweeping horizontal stroke at the end.

Ronald Hammerschmidt, Ph.D., Director
Environmental Services Division

Enclosures

EPA Region 7 Comments for the Abengoa Biorefinery Project Draft Environmental Impact Statement (DEIS), November 5, 2009

Project Purpose and Need

The DEIS does not singularly address project need, relying instead on directives from the Energy Independence and Security Act of 2007 for DOE to fund viable alternatives to petroleum-based fuels. Although it is clear how legislation drives DOE's purpose in initiating such projects, the public should understand what 'need' this governmental activity addresses. The DEIS should succinctly summarize the 'need' to which this project is responding by awarding government funds. Chapter 1 discusses the National Biofuels Action Plan and references the Plan's recognition of several national-level policy needs, but never succinctly identifies the specific need for this project. The statement on page S-4 (first full paragraph) of the Summary appears to fully capture that spirit based on DOE's "goal in implementing Section 932 of EPAct 2005" and, specifically, those components which reference fuel and power integration, utilization of a variety of lignocellulosic feedstocks, profitable operation without government subsidy and design replication. The document should also more clearly describe the distinction between the applicant's purpose and that of DOE as the funding agency.

Alternatives Considered But Eliminated

Section 2.6 explains that the Imperial, Nebraska site was eliminated from further consideration because "its feedstock was primarily corn stover, negating the design efforts to process multiple feedstocks." The DEIS proposed alternative relies predominantly on corn stover (82%) for its feedstock at the Stevens County location. Because other locations were rejected because of feedstock sources composed primarily of corn stover, the DEIS should further explain how the Stevens County site was selected despite its over-whelming dependence upon corn stover as its feedstock.

The Colwich and Wellington, Kansas, sites were eliminated "because both ranked low in corn production and had no large feedlots within a 50-mile radius." The DEIS does not explain how the lack of corn stover limits the favorability of these sites given previous statements about "design efforts to process multiple feedstocks." Further, the DEIS provides no information in any part of the document about the relationship between site utility and the local or regional presence of feedlots.

Selection of Preferred Alternative

In Section 2.5, the DEIS identifies its preferred alternative as the "proposed action." Table 2-2 provides a tabular comparison of the effects of the "proposed action" and the "action alternative" and the text reports that "for most resource and subject areas, potential impacts would be small." However, the DEIS never provides the basis for selecting the "proposed action" over the "action alternative" as DOE's preferred alternative. The DEIS should clearly describe its selection criteria and process.

Water Supply Demand

Throughout the DEIS water demand is characterized in terms of volume or rate rather than in terms of comparison to either municipal water supply capacity or groundwater availability. These assessments would be much more useful and meaningful if conducted in a more comparative or relative manner (e.g., increased demand for potable water would result in a XX% increase in water supply demand and would increase demand on available municipal supplies to XX% of current system capacity). These comparisons would better serve as the basis for determinations of 'no adverse impact' rather than qualitative expressions that increases are well within existing municipal capacity. Concluding statements should be supported through comparative evaluations.

Wastes, Byproducts and Hazardous Materials

Chapters 3 and 4 discuss the availability of solid waste landfills in Stevens and surrounding counties which could accept construction waste, process fines, bottom ash, municipal waste and other non-hazardous material. In both chapters the DEIS acknowledges possible limitations in regional capacity to handle both construction waste in the short-term and process waste over the 30-year life of the project.

Chapter 4 discusses the disposition of construction solid waste, operations solid waste and biomass boiler ash waste (if that ash is not sold as a nutrient replacement byproduct). The DEIS reports that over 80,000 tons of ash per year will be produced by the boilers. Of the four solid waste facilities discussed, the DEIS notes that the Stevens County landfill does not have the available capacity under their existing permit to handle solid waste generated by the project and Morton County's facility does not accept waste from outside the county. The DEIS identifies available capacity for the Seward County landfill at approximately 72% or 43 years at current annual tonnage received, but notes that the landfill does not have adequate capacity to receive project boiler ash for the thirty year life of the project (excluding lost capacity from operational dust and fines wastes and other operational wastes). The Grant County construction and demolition landfill "could receive" project construction wastes only. The DEIS recommends that Abengoa develop a waste management plan prior to contracting for project construction and identify landfill space during construction and operation. Abengoa should work closely with the Kansas Department of Health and Environment to develop a waste management plan prior to the award of federal funding. The Final EIS should include Abengoa's waste management plan and identify resulting impacts to local governments and the environment should additional regional landfill space be needed or wastes transported outside the 'region of influence.' The Final EIS should also include an assessment of the extent and scale of local producer demand for boiler ash as a soil amendment in order to determine the potential for Abengoa having to manage up to 81,550 tons per year of additional waste material. This aspect of project operation is a significant factor in determining the viability of the project in this location. Should an analysis of solid waste disposal demands indicate the need for expanded landfill capacity in Stevens County or nearby counties, the assessment in Chapter 4, Section 4.9 should be expanded to reflect

any additional financial burdens created by the project on local and regional governments.

Air Emissions

In Agency discussions with KDHE, it is our understanding that the facility's PSD application and the associated modeling supporting that application will have to be redone as a result of significant design changes to the project. As a result, the portion of the DEIS addressing the impact to air quality is incomplete and, therefore, we cannot provide comment on this component. If these changes in project design affect the accuracy or validity of assumptions, assessments and conclusions made within this DEIS, EPA recommends that DOE issue a supplemental draft EIS.

Agricultural Lands and Land Use

Section 3.3.5.1 presents information on "soils-related hazards", including erosion potential, but limits that assessment to the immediate area of the project site. The DEIS describes soil types, Belfon, Canina and Vorhees, as occurring "within the site." The definition of the 'site' is not provided, but should be the full 50 mile 'range of influence' for feedstock harvest rather than the facility footprint itself. The erosivity of these soils is most critical to the assessment of impacts from residue harvest. The DEIS evaluates the erosivity of the soils "in the vicinity of site" from water to be "moderate." The potential for wind erosion ranges from high for the Vorhees Series to moderate for the Canina Series to low for the Belfon Series. The DEIS, in addition to not defining the area of the assessment, does not provide the distribution of each soil series across the project area. If the 50 mile 'range of influence' for feedstock harvest is predominantly made-up of soils of the Vorhees Series, the potential for significant wind erosion is greater than if the soils are predominantly from the Belfon Series. This assessment assists in the assessment of threats to soil sustainability from biomass harvesting.

Table 4.1 in Section 4.1.1.1.1 lists Abengoa's "anticipated initial feedstock demand" based on specified proportions of each crop contributing to feedstock. The basis for Abengoa's source crop distribution, heavily weighted toward corn stover, is not explained. Abengoa's heavy reliance on irrigated corn crops for biofeedstock is also not explained and Abengoa's reliance exclusively on irrigated crops further encourages continued use of dwindling groundwater supplies despite the DEIS assumption that "the biorefinery crop residue demand would have a negligible impact on changes in land use type because there would be no incentive to alter land use type for the purpose of meeting demand." This is particularly significant given that 84% of corn production for grain is irrigated while only 20% of sorghum and 32% of wheat is irrigated. Significant reliance on feedstock which places great demand on diminishing groundwater resources further supports irrigated agriculture in an arid region. The DEIS also reports that only 21% of the land is irrigated, suggesting that most of irrigation demands originate in a small amount of farm acreage.

The DEIS discussion regarding the gain to groundwater captured through the reduced annual groundwater withdrawals for the project (e.g., 2,170 acre-feet under the proposed action) in comparison to the “currently approved quantity of 7, 240 acre-feet per year” and the past year irrigation withdrawals of 4,240 acre-feet per year under the Abengoa’s “optioned water rights” would be improved if it included a more thorough explanation of the ‘fate’ of the remaining groundwater supplies under the subject water right not used for project purposes (i.e., “maximum quantity removed from use”). For example, how is this groundwater ‘savings’ protected if it is not being used for either irrigation or the project? The DEIS would be strengthened if it included an explanation of Kansas water appropriations law, administered by the Kansas Division of Water Resources, and its particular application to this project which provides this beneficial reduction in water withdrawals. Table 5-8, under Cumulative Impacts, more clearly characterizes the nature of groundwater “removed from use” than does the presentation in Chapter 4. The DEIS should more clearly characterize the permanence of these gains to groundwater. In addition, it would be informative in evaluating ‘gains to groundwater’ if the DEIS provided some characterization of whether the 2007 water withdrawals for irrigation is representative of long-term water use from these wells. This provides the foundation for the DEIS claim that the project’s water demands represent a real project benefit through the reduction in regional groundwater demand in an area of diminishing groundwater resource and disappearing surface waters.

The discussion of Abengoa’s ten year “standard biomass purchase contract” in Section 4.1.1.1.1, which the DEIS states does not commit either Abengoa to purchase or local biomass producers to plant specific feedstock, is confusing. It would seem that securing a ten year commitment for feedstock source provides a foundation for the analysis of the long-term environmental impact of the agricultural practices supporting the project. Further, this section later reports that biorefinery demand for irrigated corn residue constitutes 75% of the available amount that could be sustainably removed. One would assume that this heavy dependence on a single crop source would necessitate a commitment from producers.

The DEIS, in Section 4.1.1.1.1 does not explain the basis for Abengoa’s estimate of available crop residue of 4.5 million dry short tons in the ‘region of influence.’ This value is apparently derived from USDA statistics for crop production with assumptions of how much of that production is field stubble or crop residue and how much of each plant can be removed. The DEIS states that this figure represents total production while Abengoa intends to target only irrigated acreage. The DEIS does not explain why Abengoa is targeting only irrigated acreage. In a region of diminishing water availability, prioritizing irrigated cropland would place greater stress on available water sources. In this same section, no value is identified for irrigated crop production, but calculations of estimated sustainable crop residue harvest for three grains are apparently derived from this value. The text in this section should clearly step through the rationale and calculations submitted by Abengoa to DOE as to projected available and harvestable biomass.

Chapter 4, Section 4.1.1.1.1 should provide more information supporting Abengoa's proposal to harvest 50% of available feedstock or stubble in order to maintain "soil sustainability." The amount of field stubble removed from a site affects water and wind erosion rates, soil carbon content, soil tilth, soil microbial health and, therefore, soil sustainability. Data generated by the USDA's Renewable Energy Assessment Project suggests that soil productivity/soil carbon content requirements more limit the sustainable amount of field stubble harvested than that required to prevent increased soil erosion rates (www.ars.usda.gov/). Further, data also suggests that sustainable removal percentages vary with soil type, climate and tillage practices. Later in this section, biomass removal is addressed and the DEIS references estimates made by the local Natural Resources Conservation Service (NRCS) about acceptable quantities of field stubble to minimize wind erosion. The basis for Abengoa's selection of a broad 50% stubble removal amount for the 16-county 'region of influence' should be provided within the DEIS itself rather than solely relying on citations to emails. It is possible that 50% removal could be sustainable in some areas of the 'region of influence' and result in soil depletion in others. The DEIS projects that 875,000 tons per year of biomass could be used by the biorefinery and estimates that 4.5 million tons per year of corn, wheat and sorghum residue is produced within the 'region of influence.' The DEIS relies on Abengoa's estimate that 50% of that residue could be sustainably harvested, yielding a value of 1,470,000 tons of biomass feedstock. The amount of needed biomass constitutes approximately 60% of sustainably harvestable residue at this removal rate. The DEIS states that a range of removal from 50 to 75% for the three crops should address concerns for wind erosion. The DEIS also recognizes that current research suggests that the amount of residue required to prevent the depletion of soil organic matter content is greater than that required to minimize wind or water erosion. The DEIS concludes that it cannot quantify the magnitude of this potential adverse impact, but later in Section 4.1.1.1.2 dismisses this issue as insignificant relying on general references to best management practices and compensatory programs to producers to offset impacts. The basis and validity of DEIS' residue removal estimate is important to determining the viability of this site to providing adequate quantities of biomass feedstock without affecting regional soil productivity.

As discussed previously, the basis for the distribution of feedstock demand across various feedstock sources is not explained. With regard to switchgrass, estimates of "anticipated demand for switchgrass/CRP biomass" appear to be arbitrarily selected and unsubstantiated. Furthermore, in its assessment of the use of switchgrass for feedstock, the DEIS states that it is "likely" that some cropland will be converted to switchgrass production. The DEIS also notes that Abengoa Bioenergy expects switchgrass to replace corn residue as the primary feedstock and yet there is no rationale, strategy or foundation offered in this document to support these statements. In fact, the document discusses in great detail the many reasons why land conversion to switchgrass production is unlikely in the near-term and will be difficult in the future. If, indeed, switchgrass will become the primary source of feedstock in the future for this project, the DEIS should more clearly describe the basis for this conversion and the timeframe.

Hydrology

Chapter 3, Section 3.4.1.3 describes "Surface Water Uses" in a manner that confuses the more colloquial understanding of how surface waters are 'used' by the public with the regulatory assignment of 'designated uses' by States. This section should describe those regulatory beneficial uses assigned to surface waters within the 'region of influence' by the States of Kansas, Oklahoma and Colorado in their respective water quality standards regulations. We suggest that this section include a table of all surface waters within the 'region of influence' classified by each State within their respective water quality standards and the uses for which these waters are to be protected (e.g., aquatic life, recreation, irrigation, etc.). Some surface waters do provide habitat for candidate or threatened aquatic species and these would likely be designated by the States to reflect that special status. In addition, the DEIS, in this section or within the appendices, should list which of these classified waters within the 'region of influence' are listed as possessing impaired water quality per each State's most recent Clean Water Act, Section 303(d) list and for which specific pollutants. Regardless of any determination whether project activities will affect these resources, the DEIS is incomplete in its characterization of the affected environment without adequate cataloging of every surface water classified by the States within the 'region of influence.'

Chapter 4 addresses planned and accidental releases of contaminants and the associated impacts of surface runoff, but provides inadequate characterization of the potential for groundwater contamination resulting from surface infiltration. The DEIS states that the "high plains is generally a permeable aquifer." Its suitability for groundwater withdrawal also makes the aquifer, in this southwestern Kansas region, susceptible to contamination and rapid contaminant movement. As a result of spill containment structures and local topography, accidental spills and intentional surface discharges (e.g., irrigation with non-contact cooling water and wastewater, sludge applications to buffer area, percolation from the wastewater holding pond) are likely to remain on the immediate land surface rather than move through surface drainages to regional stream systems, like the Cimarron River. These surface waters are, however, hydrologically connected to groundwater and contaminants can be transferred from groundwater to surface water. Therefore, groundwater contamination through surface infiltration is a concern and should be more thoroughly addressed in the Final EIS. At a minimum, the FEIS should characterize soil type with regard to percolation and the transmissivity of both groundwater and potential contaminants (i.e., how deep and far horizontally could potential contamination travel). Sections 4.6.1.2.2 and 4.6.1.3 state that an agronomy study will be undertaken as part of the discharge permit applications for "outfall" discharge and wastewater sludge application to the buffer area. The Final EIS should address potential impacts to groundwater from these waste handling activities. The Final EIS should also address the potential impact on groundwater of runoff and percolation of other material spilled as part of project operation. As stated in the DEIS, this region is primarily dependent upon its groundwater for drinking water and irrigation and, given the local topography, regional surface water is similarly dependent upon groundwater through recharge. Section 4.3.2.1.2 does not adequately characterize threats to groundwater and, while describing the close hydrologic linkage between groundwater and surface water, does not

carry that into this analysis. Potential containment of spills and discharges within site boundaries on the land surface does not necessarily mean that contaminants won't move off-site through groundwater.

Transportation

Section 4.7.1.1 discusses road damage/pavement deterioration resulting from increased truck traffic in the vicinity of the project site. The annual cost of the pavement damage associated only with biomass shipments under the proposed action is estimated to be about \$680,000 per year. Road damage associated with truck shipments associated with other materials were not characterized in the DEIS (e.g., transporting solid waste to landfills at distances exceeding 30 miles). The DEIS should address the additional cost of road maintenance to local and county government resulting from project activities.

Threatened and Endangered Species

The assessment of impacts to threatened or endangered species or their designated critical habitat from project operation should not be limited to a 1 mile project site 'region of influence.' An inventory of species and habitat and the assessment of impacts should be based on the larger 50 mile 'region of influence.' Potential impacts associated with land use, transportation and solid waste management extend well beyond the 1 mile radius used in Section 4.4.1.3. Section 3.5.4 uses a 30 mile 'region of influence' to describe the affected environment. It is not clear why a 30 mile radius is employed for this characterization instead of the 50 mile radius. Several other assessments of impacts to threatened and endangered species are based on a one mile radius from the facility location. The DEIS, in general, should more explicitly explain its rationale for relying on a variety of 'zones of influence' for each resource class and assessment category.

Genetically-modified Organisms (GMOs) and Antibiotics

GMOs are utilized, along with enzymes, in the enzymatic hydrolysis and fermentation process. The DEIS states that "all" GMOs are destroyed during distillation. The DEIS should specifically identify the expected 'kill' range in distillation and whether GMOs could remain in the lignin extracted from stillage cake which would be sold commercially for a variety of uses. With any survival, the DEIS should characterize risk associated with the release of GMOs to the environment.

Although the DEIS does not address the use of antibiotics to control bacteria during the fermentation process, this is a relatively common practice in the production of ethanol. The DEIS should characterize any risk created by the release of residual levels of antibiotics and 'resistant bacteria' to the environment, particularly under the assessment of cumulative impacts associated with the grain-to-ethanol facility which will produce distillers grain which is used as cattle feed supplement, but also through the application of sludge and treated wastewater to the buffer area.

Cumulative Impacts

The assessment of cumulative impacts from the addition of the grain-to-ethanol facility is confusing and appears somewhat disconnected from the impacts of the proposed action. There is no clear expression of the probability that this second facility will be built or in what timeframe. In addition, there are several references that "construction of each scenario would occur in a single phase" and that there is "some uncertainty regarding the estimated water demand for construction of the grain-to-ethanol facility if not constructed in single phase with the Proposed Action." This seems to suggest that both facilities could be built at the same time. The likelihood and timing of constructing dual facilities significantly influences how impacts are assessed and determinations of the magnitude of impact. In fact, the nature and magnitude of all possible environmental impacts associated with this project changes significantly with the addition of the grain-to-ethanol facility. The relationship between the project and the second facility should be clarified, including descriptions of those factors which influence whether this second facility will be built and when and any federal funding relationship between the two facilities.

Cumulative impacts from constructing and operating both facilities are defined by incremental changes in groundwater demand by municipal water supply, process water needs and changes in the quantity and type of crops grown for feedstock. All values should be expressed as percentages of allocated water right, groundwater withdrawal and supply capacity. Comparison between the water demands of the project facility alone and the demands of it and a second or third refinery (i.e., grain-based Abengoa and the Nexsun facility) are meaningful in terms of their cumulative impact and cumulative demand on groundwater supplies and less so in comparison to each other.

Construction and operational wastes from both facilities would overwhelm the Stevens County landfill and would reduce the Seward County landfill by more than 30%. The DEIS states that this impact is significant, but mitigated by the likelihood that the solid waste stream would be split among other facilities throughout the 'region of influence.' The DEIS does not name these locations nor does it account for fuel consumption or road impacts associated with the transport of waste to these more distant facilities. There is little detail provided regarding specific plans to manage a significant increase in solid waste production in a rural region and the basis for stating that there is no resulting adverse cumulative impact. Further, the DEIS states that construction wastes associated with the proposed alternative amount to 78 tons per day while those from the grain-based refinery would add an additional 100 tons per day. Yet the DEIS states that the Grant County construction/debris landfill will not be significantly affected by this increase in construction waste. The basis for this statement is not clearly identified in the DEIS.

The DEIS states that Stevens County is considering the construction of a truck bypass to avoid heavily populated areas in and around Hugoton. Without this bypass, considerable truck traffic is expected to travel through residential areas of the City and, with the addition of the grain-to-ethanol facility, cause "almost continuous annoyance at some locations." We recommend that the Final EIS include a description of the degree to

which this bypass would ameliorate this adverse impact and the likelihood of it being constructed.

In calculating groundwater savings across the two project alternatives and the grain-to-ethanol addition in Table 5-8, it appears that the third column reflects the same biorefinery water demand. This appears to indicate that the reduced biorefinery demand under the action alternative is off-set by a higher water use by the grain-to-methanol facility to produce the same amount water demand. This is not clearly articulated in the text.

Draft Environmental Impact Statement Rating Definitions

Environmental Impact of the Action

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative. EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.